Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, D.C. 20554

In the Matter of	)	
	)	
Preserving the Open Internet	)	GN Docket No. 09-191
	)	
Broadband Industry Practices	)	WC Docket No. 07-54
	)	

COMMENTS OF SPRINT NEXTEL CORPORATION

Vonya B. McCann
Senior Vice President, Government Affairs
Sprint Nextel Corporation
900 Seventh Street N.W., Suite 700
Washington, D.C. 20001
202-585-1902

Charles W. McKee
Vice President, Government Affairs
Federal and State Regulatory
Sprint Nextel Corporation
900 Seventh Street N.W.
Washington, D.C. 20001
703-433-3786

Scott R. Freiermuth
Counsel, Government Affairs
Federal Regulatory
Sprint Nextel Corporation
6450 Sprint Parkway
Overland Park, KS 66251
913-315-8521

January 14, 2010

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Summary of Comments

Sprint has embraced openness as a mobile services provider and supports the Commission's goal of a free and open Internet. Sprint maintains that the competitive wireless broadband market has responded and continues to respond to consumer demand for open access to content, applications, and services of their choosing. Regulating the Internet and requiring "openness," however, necessarily affects the ability of private, for-profit companies to control and manage their subscribers' use of these private networks at the edge of the Internet. As such, the Commission must tread lightly and balance carefully the goal of openness with the reality of finite network resources to avoid unintended consequences – especially as it pertains to wireless broadband networks that face spectrum and capacity constraints.

With this overarching, cautionary statement in mind, Sprint submits the following:

A. Sprint supports the goal of an open Internet. Among other things, Sprint has:

- Allowed data users to browse the Internet outside its portal since first offering Internet access in 2001;
- Held annually since 2001 open developer conferences and created a Developer Sandbox initiative through which it provides developers with collaborative tools and access to core enabling capabilities at no cost;
- Offered its customers the option to choose from a variety of different device operating systems (*e.g.*, Android, Palm webOS, RIM Blackberry, Windows Mobile), and was the first U.S. wireless carrier to join the Open Handset Alliance; and
- Allowed for over a decade customers to use non-Sprint-branded devices to operate on its network, certifying over 300 third-party devices.

B. Mobile broadband competition is the best protection for consumers. The FCC, since the inception of the wireless industry 25 years ago, has relied on market forces rather than government regulation so the mobile space could evolve in response to consumer demand. This "hands-off" policy has been a spectacular success in the retail or downstream market, as service providers have had the flexibility to respond to ever-changing consumer desires and to take advantage quickly of new technologies and business models. Given this documented track record of providing the products and services consumers want, the FCC should continue to follow its long-standing precedent by imposing new regulation on the competitive mobile sector only upon demonstration of a "clear cut need."

To enhance competition among mobile broadband providers and ensure the continued market evolution towards "openness," the Commission should address the wealth transfer from independent carriers like Sprint to vertically integrated carriers like AT&T and Verizon. Through USF payments, switched access payments, and special access payments, independent wireless carriers are being forced to directly underwrite their competitors. If left unchecked, these anti-competitive policies could result in a vertically integrated duopoly that will have little incentive to provide consumers with the "open" Internet experience they covet.

C. If the FCC determines rules are necessary for the mobile broadband space, Sprint could support some of the proposed rules, with appropriate clarifications:

1. *Sprint could support the proposed transparency rule if crafted carefully.* Sprint agrees that consumers will make more informed decisions if they have access to clear and relevant information. But Sprint also agrees with the Chairman that any new rule should not require broadband providers to disclose information that might "compromise the security of the network" or "competitively sensitive data." Broadband providers certainly should not be required to provide so much detail about their network management practices that hackers could design systems to circumvent those practices or which would overwhelm consumers.

2. *Sprint could support a rule granting consumers a right to access content and applications of their choice, provided appropriate network management and consumer protection control is retained.* As it currently provides the open access the FCC is proposing, Sprint does not, in principle, oppose an obligation to provide such access. Nevertheless, the FCC must make clear that carriers retain the flexibility to manage their networks and to protect their customers, including the right to block access when necessary. For example, a small number of customers in a locality must not be permitted to "hog" so much spectrum at a given point in time that other customers served by the same cell site cannot access their desired content or applications – or even obtain service altogether (*e.g.*, make an E911 call). Similarly, the Commission also should make clear that a mobile broadband service provider can protect its customers and may, if necessary, deny access to a CAS provider when it has evidence that a particular provider is engaged in fraudulent or other commercially harmful activity.

3. *A strict nondiscrimination obligation is unwarranted and unworkable, but Sprint could support a prohibition on "unreasonable discrimination."* The FCC has correctly identified the need to distinguish between socially beneficial discrimination from socially harmful discrimination. The fundamental problem with a strict nondiscrimination proposal, however, is that it would ban all discrimination – including socially desirable discrimination. Given the speed of innovation, the FCC should avoid adopting any absolute prohibition banning certain conduct under all circumstances and for all time. Moreover, given that case-by-case adjudication of disputes is inevitable, the FCC should instead use the time-tested "unreasonable discrimination" standard, because this test would, as the Chairman has recognized, empower the FCC to make "fact-based determinations based on the Internet before it – not based on the Internet of years past or guesses about how the Internet will evolve."

4. *The proposal to require the attachment of "any device" to the network is problematic for current wireless networks, but may be appropriate in the future.* Among other things, such a rule would inhibit a mobile provider's ability to use its spectrum efficiently given current network configurations – which, in turn, would negatively impact available capacity, the cost of service and the ability of customers to enjoy a quality experience. Such a rule would also inhibit a provider's ability to provide quality customer care to consumers and could result in unhappy customers. The market in this area is changing, however, and Sprint agrees

that industry standards further enhancing a more open handset development process could benefit consumers.

D. Sprint agrees that any new rules must exclude managed services. Managed services are designed to serve the needs of business customers and others needing capabilities not provided through a simple "on ramp" to the Internet. These services are both critical to the economy and a source of revenue for the continued operation of the network. By definition, however, they are not "net neutral." It is critical to preserve these services. However, the Commission has created ambiguity on this front by suggesting that managed services are not "necessarily or automatically" subject to net neutrality obligations. Sprint urges the Commission to adopt a broad definition of managed services and confirm that these services are not subject to net neutrality obligations. Such a finding in no way undermines the obligation to provide consumers open access to the public Internet, but ensures that important business services are not disrupted.

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COMMENTS OF SPRINT NEXTEL CORPORATION

Sprint Nextel Corporation ("Sprint") below responds to the Commission's request for "public input on draft rules to preserve an open Internet."[1] Sprint has embraced openness as a mobile services provider, and it supports the Commission's goal of a free and open Internet. In a competitive wireless broadband market, Sprint believes consumers have demanded open products and services, and the market has responded accordingly.[2] Competition will continue to be the best protection for consumers. If the Commission determines that rules are nonetheless needed to ensure the openness of the Internet, Sprint suggests the manner in which such rules should be modified to address the realities of current networks and to help avoid unintended consequences.

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1 *See Preserving the Open Internet,* GN Docket No. 09-191, *Broadband Industry Practices,* WC Docket No. 07-52, Notice of Proposed Rulemaking, FCC 09-93, 24 FCC Rcd 13064, 13065 ¶ 2 (Oct. 22, 2009), *published in* 74 Fed. Reg. 62638 (Nov. 30 2009)("*Open Internet NPRM*").

2 These comments are limited in scope to mobile wireless broadband services. While there is some debate whether mobile and fixed broadband services compete directly with each other (*i.e.*, are substitutes), Sprint submits this question cannot be definitively answered until 4G broadband networks are widely deployed, so it can be determined how consumers use 4G services relative to fixed broadband services.

I. INTRODUCTION

The American mobile wireless industry is one of this nation's gems. American consumers pay far less for their wireless services than consumers in other countries – and not surprisingly as a result, use their wireless services far more than consumers elsewhere. The pace of investment and innovation is unparalleled, whether the American mobile industry is compared to mobile industries in other countries or to other U.S. communications sectors.

These results are due principally to two Commission actions. First, the FCC adopted spectrum policies that resulted in our country having more facilities-based licensees than in most other countries, thereby intensifying competition to the benefit of consumers. Secondly, the FCC adopted a largely "hands-off" approach for this competitive industry. This, in turn, has given mobile providers the flexibility to respond to ever-changing consumer desires, to implement rapidly changing new technologies, and to experiment with and refine business plans as market and technology changes warranted. As but one example, wireless service providers initially offered content, applications and services *via* "walled gardens," but this business model quickly dissolved in response to consumer demand for the richness and variety of products and service outside of these walled gardens.

In the past, the Commission has imposed new regulation on the mobile industry only upon a demonstration of a "clear cut need."[3] Given the success of this "hands-off" approach, the Commission should continue to follow this long-standing policy. Between the demonstrable competition that exists in the mobile ecosystem and the industry's documented track record in continually reducing prices and continually introducing new technologies and capabilities "at a

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[3] *See Connecticut Wireless Rate Regulation Order*, 10 FCC Rcd 7025, 7030 ¶ 8, 7031 ¶ 10 (1995), *aff'd, Connecticut DPUC* v. *FCC*, 78 F.3d 842 (2d Cir. 1996).

dizzying pace,"[4] Sprint submits there is, at this time, no evidence of a "clear cut need" for new rules. Sprint finds significant that regulators in both the United Kingdom and Canada declined last year to adopt for their mobile broadband providers any new "net neutrality" rules, determining that continued reliance on market forces would better meet the needs of their consumers.[5]

The mobile services industry, the Chairman has correctly observed, is at "a pivotal moment" as it transitions from "a voice-centric world to a world of ubiquitous, mobile Internet access."[6] Unlike the fixed broadband industry, which has operated all-IP networks for years, the mobile industry is just beginning to deploy its all-IP, broadband networks: "Right now, we are in the early innings of a mobile communications revolution. After years of anticipation, new and faster wireless networks – known as 4G or fourth generation – are finally coming online."[7]

This "next generation of mobile technology – 4G – will make all the difference," as the Chairman also has observed correctly:

> 4G will provide mobile connectivity several times faster than we have today. It will provide a mobile Internet experience comparable to today's wireline net-

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4 *See* Prepared Remarks of Chairman Genachowski, *Preserving a Free and Open Internet: A Platform for Innovation, Opportunity, and Prosperity*, at 6 (Sept. 21, 2009)("Chairman's Brookings Speech").

5 *See* Ofcom, *Mostly Mobile; Ofcom's Mobile Sector Assessment*, Second Consultation (July 8, 2009), *available at* http://www.ofcom.org.uk/consult/condocs/msa/; Canadian Radio-television and Telecommunications Commission, *Review of Internet Traffic Management Practices of Internet Service Providers,* CRTC 2009-657 (Oct. 21, 2009), *available at* http://www.crtc.gc.ca/eng/archive/2009/2009-657.htm.

6 Chairman's Separate Statement, *Mobile Wireless Competition NOI*, 24 FCC Rcd 11357, 11371 (Aug. 27, 2009).

7 Prepared Remarks of Chairman Genachowski, *Innovation in a Broadband World,* at 7 (Dec. 1, 2009)("Chairman's Innovation Economy Conference Speech"). *See also* Chairman's Separate Statement, *Tower Siting Declaratory Order,* WT Docket No. 08-165, FCC 09-165 (Nov. 18, 2009)("4G networks are ready to move from the drawing board to the marketplace. One major provider has already launched 4G WiMAX service in select markets. Competitors have announced plans to debut LTE networks in major markets around the country beginning next year," in 2010.)("Chairman's Tower Siting Statement").

> works – data rates measured in megabits per second instead of kilobits, latencies in mere milliseconds.[8]

In short, these 4G networks are fundamentally different than current 3G broadband capabilities, both in capacity, data transmission rates, and business models.

It is important to emphasize that 4G networks will provide to consumers, businesses and government important "anywhere, anytime" capabilities that fixed networks cannot offer. What is more, in some high cost areas, mobile broadband networks may be the only meaningful broadband Internet access that will be available in the near future to consumers and small businesses.

Sprint agrees with the Chairman that "mobile is essential to the future of broadband."[9] Sprint further agrees that the Commission's "first focus" should be on "extending broadband access, with the goal of universal availability":[10]

> We have a lot of work to do on deployment – ensuring that broadband connectivity is available everywhere in the U.S., including our small towns and rural areas.[11]

Indeed, without widespread deployment of mobile 4G networks, consumer "rights" to an open Internet have little meaning and significance. As the Chairman has again observed correctly:

> The full potential of the Internet cannot be unleashed without robust and healthy broadband networks, and broadband providers need room to experiment with new

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[8] Prepared Remarks of Chairman Genachowski, *America's Mobile Broadband Future*, at 3 (Oct. 7, 2009)("Chairman's CTIA Speech").

[9] Chairman's CTIA Speech at 3.

[10] Prepared Remarks of Chairman Genachowski, *ICT: Global Opportunities and Challenges,* at 3 (Nov. 10, 2009)("Chairman's ITU Speech"). *See also* Chairman's Innovation Economy Conference Speech at 6 ("And the great infrastructure challenge of our time is the deployment and adoption of robust broadband networks that deliver the promise of high-speed Internet to all Americans.").

[11] Prepared Remarks of Chairman Genachowski, *Connecting the Nation: A National Broadband Plan*, at 3 (Nov. 24, 2009)("Chairman's Clinton Library Speech")

> technologies and business models in order to earn a return on their investment and deploy high-speed broadband to all Americans.[12]

As such, in the near term, carrier resources should be focused on building 4G networks and developing systems and services for these networks. The Commission should also remember that wireless carriers, while building 4G networks, must concurrently manage consumers' mounting appetite for additional mobile broadband capacity. As the Chairman has noted, mobile data usage could grow 66-fold over the next five years:

> Mobile data usage is not just growing, it's exploding. By some estimates it will grow from 6 petabytes per month in 2008 to nearly 400 petabytes per month in 2013. You don't have to know what a petabyte is to know that that's a game-changing trajectory.[13]

In this environment, Sprint submits that promoting the rapid and ubiquitous deployment of 4G networks should be the Commission's first concern. Nevertheless, it is possible that the Commission will determine that some new rules are necessary for the mobile sector, and further, are necessary at this time. Accordingly, in these comments Sprint also addresses the proposed rules it could support and the clarifications needed to help ensure that any such rules do not result in unintended consequences.

II. SPRINT SUPPORTS THE GOAL OF AN OPEN INTERNET AND A COMPETITIVE WIRELESS ECOSYSTEM

Sprint has differentiated itself in the marketplace by providing open access to the Internet, offering consumers a wide variety of mobile devices and choices among different operating systems, supporting third-party developers, and utilizing reasonable, unrestrictive network management practices. In fact, through its "Ready Now" program, Sprint has taken the affirmative

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12 Chairman's Separate Statement, *Open Internet NPRM*, 24 FCC Rcd at 13155.

13 Chairman's CTIA Speech at 5.

step of providing customers assistance in setting up devices, teaching them how to access information on the Internet and maximizing their use of data.

As Sprint's CEO Dan Hesse stated with the announcement of Sprint's revolutionary Simply Everything Plan™, "Our high-speed networks were built with this in mind and it's where we believe the battleground lies - offering fast access to the best content and data services. We are removing the barriers for customers to feel free to use all of the features of their phones."[14] Sprint allows data users to freely browse the Internet outside its portal and has done so since first offering access to the Internet on its phones in 2001. Indeed, Sprint places no restrictions on its customers' ability to access content, applications and services directly competitive to Sprint's own offerings. For instance, Sprint customers are free to use Google Voice or Skype on their mobile phone.[15]

Sprint also understands the interplay between openness and mobile operating systems ("OS"). Sprint was the first U.S. wireless carrier to become a member of the Open Handset Alliance which developed the Android operating system. In addition to Android devices, Sprint offers its customers mobile devices that use a variety of different operating systems including Palm webOS, Windows Mobile, and RIM Blackberry. And it is clear that the competition in the mobile OS system market has quickly developed into a contest of "openness." The winners in the mobile OS market are those firms that develop open source code which software developers can utilize to create innovative content, services and, of course, applications. Sprint recognizes that to grow the mobile marketplace and to exploit fully the amazing potential of mobile com-

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[14] *See* Sprint Press Release, *Sprint Launches Revolutionary $99.99 "Simply Everything" Plan*, (Feb. 28, 2008) *available at*, http://newsreleases.sprint.com/phoenix.zhtml?c=127149&p=irol-newsArticle_newsroom&ID=1113525.

[15] Not every device is capable of running the software needed to support every possible application, but Sprint does not place any restriction on the use of these applications.

munications, Sprint must empower rather than restrict wireless users. As such, Sprint strongly supports and encourages this rapid movement towards openness.

In addition, for over a decade Sprint has allowed customers to use non-Sprint-branded devices on its network. Through its industry-leading Open Device Initiative, Sprint has certified over 300 third-party devices for the Sprint network.[16] The Open Device Initiative provides manufacturers the necessary specifications to develop various innovative devices compatible with the Sprint network. Sprint will then test these devices to ensure that they do not harm the network or degrade capacity.

Sprint also has been an industry leader in supporting third-party developers. Last October, Sprint held its *ninth annual* open developer conference.[17] Sprint wants developers, for both consumers and enterprises, to be successful and profitable because it recognizes the important role developers play in a mobile environment. Sprint provides developers collaborative tools to leverage Sprint's network and back office systems in an effort to create rich and varied products and services to Sprint subscribers. For example, with Sprint's Developer Sandbox initiative, developers are provided free access to "play" with Sprint's core enabling capabilities and application programming interfaces ("APIs") such as location based services ("LBS"), Messaging, Presence, User Management and Geo-Location.[18]

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[16] *See* Sprint Press Release, *Sprint Certifies 300th Embedded Device on the Now Network* (July 23, 2009), *available at* http://newsreleases.sprint.com/phoenix.zhtml?c=127149&p=irol-newsArticle_newsroom&ID=1310749.

[17] *See* Sprint Press Release, *Sprint Outlines "Open" Approach at Ninth Annual Developer Conference; Sprint Offers Developers the Tools They Need to be Successful* (Oct. 27, 2009), *available at* http://www2.sprint.com/mr/mrhome.do. The presentations at this 2009 conference are available at: http://developer.sprint.com/site/global/community/events/2009devcon/2009sprintopendeveloperconference.jsp.

[18] *See* http://sprintdevelopersandbox.com/.

Sprint has been recognized for its leadership in this area, winning one Frost & Sullivan award in 2009 and three such awards in 2008.[19] The 2009 award citation lauds Sprint's partnering, which is focused on identifying customer needs and then collaborating closely with application developers to create innovative solutions. The 2009 award was based on a new TeleNav Vehicle Manager™ service that Sprint, in partnership with TeleNav, Inc. and Turnpike, developed for the trucking industry. This service uses an electronic on-board recorder paired (*via* Bluetooth) with a GPS-enabled wireless phone to gather and submit engine diagnostics, driver performance information, odometer readings, miles reports and time cards. The wireless device also enables tracking of vehicles en route, gives drivers audible, turn-by-turn directions to increase safety and reduce fuel consumption, and also helps improve compliance management through automation of International Fuel Tax Agreement ("IFTA") filings.

Finally, Sprint uses reasonable and unrestrictive network management practices. Sprint currently utilizes on its 3G network a "best effort" treatment of Internet traffic in which there is no traffic prioritization or quality-of-service differentiation for standard consumer Internet access.[20] And while Sprint monitors traffic on its network, it does so in a content and application agnostic fashion. Sprint does not slow or choke traffic to individual customers based upon the content or application accessed. Instead, Sprint monitors only the volume of data consumed, employing a "soft" five-gigabyte cap on wireless data usage (with the customer having to pay

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[19] *See* Sprint Press Release, *Frost & Sullivan Recognizes Sprint for Product Strategy Leadership in Wireless Navigation* (Oct. 22, 2009), *available at* http://www2.sprint.com/mr/mrhome.do.

[20] With the volume of data traffic increasingly exponentially, Sprint anticipates capacity constraints will require it to adjust pricing policies to appropriately manage network traffic. This may include varying throughput speeds and providing consumers options on the type of data experience they wish to purchase.

$.05 per additional megabyte of data).[21] Sprint, of course, must protect its network and its customers from egregious or nefarious use of its network. These network use protections are disclosed to customers in Sprint's Terms and Conditions of service as well as its Acceptable Use Policy both of which are available on its website.

III. MOBILE BROADBAND COMPETITION IS THE BEST PROTECTION FOR CONSUMERS

A. THE RETAIL MOBILE SERVICES MARKET IS COMPETITIVE AND CONSUMERS CONTINUE TO BENEFIT FROM THIS COMPETITION

The history of the wireless industry confirms that robust competition in the mobile space is the best means of ensuring that consumers have access to the services and products they desire. As Chairman Genachowski has observed, "the power of the FCC to influence the market pales in comparison to the power of the American consumer."[22]

Congress, the Commission has recognized, has made clear that "market forces rather than regulation" should govern the wireless industry and that new regulation should be imposed only upon a demonstration of "a clear cut need":[23]

> We agree that, as a matter of Congressional and Commission policy, there is a general preference that the CMRS industry be governed by the competitive forces of the marketplace, rather than by governmental regulation.[24]

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[21] Sprint does, however, reserve the right to protect its networks and other subscribers' use of its networks from continuous heavy traffic or data sessions including the right to terminate service.

[22] Chairman's CTIA Speech at 8.

[23] *Connecticut Wireless Rate Regulation Order*, 10 FCC Rcd 7025, 7030 ¶ 8, 7031 ¶ 10 (1995), *aff'd, Connecticut DPUC* v. *FCC*, 78 F.3d 842 (2d Cir. 1996).

[24] *Southwestern Bell Mobile Order,* 14 FCC Rcd 19898, 19902 ¶ 9 (1999). *See also Second 700 MHz Order,* 22 FCC Rcd 15289, 15362 ¶ 200 (2007)("The Commission generally relies on the competitive marketplace to deliver the benefits of choice, innovation and affordability to American consumers, and regulates only when market driven forces alone may not achieve broader social goals.").

Sprint further agrees with the Chairman that reliance on competition should also be at the core of the Commission's broadband policies for the mobile space:

> Any [broadband] plan we develop will rely upon private sector investment and competition wherever and whenever possible to bring the benefits of broadband to the nation.[25]

Reliance on competition is important, the Chairman has correctly observed, not only because competition produces "low prices and high quality for consumers," but also because competition is "the mother of invention, which makes it especially important in a fast-changing marketplace like communications":

> In addition to these kinds of consumer benefits, competition drives investment and creates jobs. . . . A competitive wireless sector, in short, is essential to ensuring that communications remains an engine for long-term economic prosperity. Competition also drives innovation.[26]

Unlike the "limited competition" that exists in the fixed broadband sector,[27] the wireless retail sector is strongly competitive. According to the FCC's most recent data, over 90 percent of all Americans have a choice of four facilities-based wireless carriers, with nearly 65 percent having a choice of five different licensees.[28] According to data that is now almost two years old, the most recent versions of 3G networks (EV-DO Rev. A and WCDMA/HSDPA) are available to over 92 percent of all Americans.[29]

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25 Chairman's Prepared Remarks on National Broadband Plan, at 3 (Dec. 16, 2009).

26 Chairman's Separate Statement, *Mobile Services Annual Report of Competitive Market Conditions NOI*, 24 FCC Rcd 11357, 11371 (2009).

27 *See* Chairman's Brookings Speech at 3.

28 *See Thirteenth CMRS Competition Report,* 24 FCC Rcd 6185, 6210 ¶ 40 (2009).

29 *See id.* at 6257 ¶ 144. This report does not indicate coverage by network operator.

Mobile virtual network operators ("MVNOs") also serve seven percent (7%) of all mobile subscribers,[30] and the business model implemented by Clearwire, an entity in which Sprint is the primary investor, guarantees that MVNO competition will continue in a 4G broadband environment. Clearwire's new 4G WiMAX network is available to consumers in 27 markets serving over 30 million Americans (and is expected to quadruple in size – in terms of population served – in 2010), with other major network operators having announced plans to begin deploying their 4G networks this year.

This Congressional and Commission policy of relying on market forces has been a success. The wireless industry has a documented track record of providing the products and services consumers want (and at the prices they are willing to pay). As the Commission determined only last year:

> U.S. consumers continue to reap significant benefits – including low prices, new technologies, improved service quality, and choice among providers – from competition in the CMRS marketplace. * * * Relatively low prices on mobile voice and data services appear to have been a key factor stimulating subscriber growth and usage.[31]

The Commission has found repeatedly that no wireless carrier possesses market power within the consumer market for mobile services,[32] and federal antitrust courts have reached the same conclusion.[33] Without market power, no wireless carrier possesses the ability to harm

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30 *See id.* at 6201 ¶ 17.

31 *Thirteenth CMRS Competition Report*, 24 FCC Rcd at 6188 ¶ 1 and 6310 ¶ 274.

32 *See, e.g., Thirteenth CMRS Competition Report*, 24 FCC Rcd at 6190 ¶ 1 ("No single competitor has a dominant share of the market."); *Intercarrier Compensation Remand Order/FNPRM*, 24 FCC Rcd 6475, 6637 ¶ 318 (2009)("CMRS providers . . . lack market power and are considered non-dominant.").

33 *See, e.g., Wireless Services Antitrust Litigation*, 385 F. Supp. 2d 403, 417 (S.D.N.Y. 2005)("None of the defendants enjoys a market share that would, standing alone, permit an inference of market power to be drawn"); *id.* at 421 ("[T]he structure of the wireless services market reflects intense competition with no single, dominant seller.").

downstream *consumer* markets.[34] After all, churn rates within the wireless sector (18 to 36 percent annually) confirm that consumers "walk with their feet" if their mobile services provider does not meet their expectations in any way.[35]

Given this environment and history, the Commission should continue to follow its precedent by imposing new regulation on the competitive mobile sector only upon demonstration of "a clear cut need."[36]

B. To Ensure Continued Competition and Evolution Toward Greater "Openness," the Commission Should Address Wealth Transfer Policies and Anti-Competitive Upstream Markets

The retail wireless market is evolving towards greater "openness." This can be seen everywhere from unfettered access to the Internet, to "open" operating systems, to "unlocked" devices, to billions of downloaded applications. Sprint believes the driving force behind this "open" revolution is the vibrant competition among wireless service providers. This driving force, however, will come to a halt if the Commission does not take certain actions to ensure that independent wireless carriers are not undermined through wealth transfer policies and anti-competitive pricing policies that enrich vertically integrated carriers like AT&T and Verizon.

First, one of the most important issues facing Sprint (and other independent wireless carriers) is the price we must pay incumbent LECs for the special access facilities we need to con-

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[34] The FCC acknowledges that socially adverse discrimination is "more likely" where "effective competition is lacking (*i.e.*, where broadband Internet access service providers have market power."). *See Open Internet NPRM*, 24 FCC Rcd at 13093 ¶ 70. While the mobile retail market is competitive, it must be noted that one of the essential inputs to mobile service, special access, is not competitive and is controlled by two entities: Verizon and AT&T.

[35] *See Thirteenth CMRS Competition Report*, 24 FCC Rcd at 6271 ¶ 181.

[36] *Connecticut Wireless Rate Regulation Order*, 10 FCC Rcd 7025, 7030 ¶ 8, 7031 ¶ 10 (1995), *aff'd, Connecticut DPUC* v. *FCC*, 78 F.3d 842 (2d Cir. 1996).

nect our base stations with our mobile switching centers.[37] Sprint has addressed this subject in several other pending dockets, so it will only briefly address the matter here.[38]

The material facts are not in serious dispute:

1. Backhaul facilities constitute "bottleneck facilities." Wireless carriers cannot provide their services at all unless they can connect their cell sites with their network equipment such as switches and routers.
2. In most locations, wireless carriers have no competitive alternatives to the "special access" backhaul facilities that incumbent LECs provide, which gives the incumbents an effective monopoly in most areas.
3. As the FCC has previously recognized, "all incumbent LECs have the incentive and ability to discriminate against unaffiliated broadband CMRS providers":

   > LECs that own CMRS subsidiaries have the incentive to engage in anticompetitive practices in order to benefit their own CMRS subsidiaries and to protect their local exchange monopolies from wireless competition. At the same time, LEC control of bottleneck local exchange facilities – upon which competing CMRS providers must rely – gives LECs the opportunity to engage in anticompetitive behavior.[39]

4. However, the three RBOCs (AT&T, Qwest and Verizon) dominate the special access market, as they account for over 90 percent of all interstate special access revenues.[40]
5. Available record evidence shows that the three RBOCs are enjoying monopoly rents on (and obscene profits from) the special access facilities they provide to wireless carriers.

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[37] These backhaul facilities include a range of capacity levels, speeds and technologies, from TDM-based DS1 to packet-based Ethernet circuits.

[38] *See, e.g.*, Sprint Nextel Comments, WT Docket No. 08-71 (May 7, 2007); Sprint Nextel Comments, WT Docket No. 08-27 (March 26, 2008); and, Sprint Nextel Comments, WT Docket No. 09-66 (June 15, 2009 and September 30, 2009).

[39] *LEC-CMRS Safeguards Order*, 12 FCC Rcd 15668, 15689 ¶ 27, 14696 ¶ 45 (1997), *aff'd GTE* v. *FCC*, 233 F.3d 341 (D.C. Cir. 2000). *See also Section 272(f)(10 Sunset Order*, 22 FCC Rcd 16440, 16473 ¶ 64 (2007)(ILECs "continue to possess exclusionary market power with [their] respective regions by reason of [their] control over these bottleneck access facilities."); *Cingular/AT&T Wireless Merger Order*, 19 FCC Rcd 21552, 21611 ¶ 237 (2004)(ILECs have the "incentive to protect their wireline customer base from intermodal and intramodal competition.").

[40] *See* 2007 FCC ARMIS Report 43-01, Table 1, Column "Special Access."

6. The price of backhaul facilities has a considerable impact on the price of wireless services. Special access expense constitutes approximately one-third of Sprint's total cell site operating costs.

The market power incumbent LECs possess over their bottleneck facilities has its most pernicious effect on the deployment of broadband services – whether 3G or 4G. Broadband services require more or larger backhaul facilities because of the additional capacity required to provide such services. Incumbent LEC dominance of the special access market ensures that they will continue to control the cost imposed on new broadband providers, regardless of the size of the facility. Inflated costs of special access, in turn, will limit the number of areas in which competitive broadband deployment will be economically feasible and will artificially increase costs to consumers. In short, these vertically integrated carriers can squeeze competition out of the market which could, in time, lead to fewer competitors and less incentive for the remaining broadband access service providers continue evolving towards greater "openness."

Second, in addition to addressing backhaul facilities, the Commission should also address the current regimes for intercarrier compensation and high-cost universal service. Everyone agrees that both regimes are broken, and the Commission has been considering reform for years. Cash that could be used for broadband deployment is instead, by Commission mandate, diverted to above-cost LEC access charges and high-cost subsidies to support inflexible, outdated and costly circuit-switched networks. This wealth transfer arrangement makes utterly no sense when available evidence demonstrates that mobile wireless broadband networks can be deployed cost effectively and for less than comparable wireline broadband networks.

As it pertains to the Commission's goals in the net neutrality proceeding, Sprint believes these antiquated wealth transfer regimes inhibit broadband deployment – mobile broadband in particular – and, in turn, this negatively affects competition in the broadband access markets.

With less competition, broadband Internet access providers will have less incentive to provide consumers with the "open" Internet experience they covet.

IV. IF THE COMMISSION DETERMINES RULES ARE NECESSARY, SPRINT COULD SUPPORT SOME OF THE PROPOSED RULES WITH APPROPRIATE CLARIFICATION

Sprint does not believe net neutrality obligations are required in today's competitive mobile broadband market, and it has some concern that new regulation in this dynamic area could have the unintended effect of distorting the evolution of the Internet access networks that consumers demand. However, if the Commission determines that rules are necessary, Sprint could support the Commission's proposed "broad principle" rules on transparency, consumer access to content and applications, and a prohibition on unreasonable discrimination with appropriate clarification. Sprint does not support a strict non-discrimination rule and has concerns regarding an obligation to allow the connection of any lawful device on current wireless networks, but Sprint could support industry-led efforts to develop universal standards for device/network interoperability in the future.

A. SPRINT COULD SUPPORT THE PROPOSED TRANSPARENCY RULE IF CRAFTED CAREFULLY

Sprint agrees with the Commission that a transparency rule crafted carefully would "empower consumers and [would] maximize the efficient operation of relevant markets by ensuring that all interested parties have access to necessary information about the traffic management practices of networks."[41] As Chairman Genachowski has correctly observed:

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41 *Open Internet NPRM*, 24 FCC Rcd at 13108 ¶ 118.

> Without reliable, clear, relevant information, consumers cannot make informed decisions. Without informed decisions, the market does not perform optimally.[42]

Greater transparency will, moreover, "give consumers the confidence of knowing that they're getting the service they've paid for."[43]

Any transparency rule must be crafted carefully, however. Specifically, Sprint agrees with the Chairman that any new rule should not require broadband providers to disclose information that "might compromise the security of the network . . . [or] competitively sensitive data."[44] Broadband providers certainly should not be required to provide so much detail about their network management practices that hackers could design systems to circumvent those practices or which would overwhelm consumers.

The Commission correctly recognizes that providing "too much detail may be counterproductive if users ignore or find it difficult to understand those details."[45] The Federal Trade Commission ("FTC") has recognized the same point:

> If consumers either do not read disclosures or do not understand them, the purpose of the disclosures is frustrated. The challenge of disclosures in the broadband access area, therefore, is to make such disclosures in a way that will enable consumers to understand both the services at issue and the ISPs' descriptions of how those services are provided.[46]

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42 Prepared Remarks of Chairman Genachowski, *America's Mobile Broadband Future*, at 8 (Oct. 7, 2009)("Chairman's CTIA Speech"). *See also* Federal Trade Commission ("FTC") Comments, GN Docket No. 09-51, at 9 (Sept. 4, 2009)("Accurate disclosure of material terms allows consumers to compare similar services offered by one or more providers and to weigh the different terms being offered in making decisions about what services to purchase.").

43 Prepared Remarks of Chairman Genachowski, *Preserving a Free and Open Internet: A Platform for Innovation, Opportunity, and Prosperity*, at 6 (Sept. 21, 2009)("Chairman's Brookings Speech").

44 Chairman's Brookings Speech at 6

45 *Open Internet NPRM*, 24 FCC Rcd at 13110 ¶ 126.

46 FTC Broadband Connectivity Report, at 133 (June 27, 2007).

The Commission asks about disclosure of "actual (as opposed to advertised) transmission rates."[47] Today, Sprint's advertising provides consumers with average throughput rates. For example, Sprint advises prospective customers of its 4G services:

> Peak download speeds of over 10 Mbps and average download speeds of 3-6 Mbps.[48]

Providing an "actual" throughput rate is impossible for mobile broadband services, given the many variables that can impact this rate – including the number of customers accessing service from the same cell site at a given point in time and the way they are using their service at the time (*e.g.*, voice vs. video downloading). Sprint therefore believes its current practice of providing a range of "average download speeds" provides consumers with the basic information they may need in a simple way they can readily understand – and in a disclosure sufficiently concise that consumers will read and remember it.

The Commission asks about standardizing the disclosure process so consumers can more easily comparison shop.[49] But for comparison-shopping to be meaningful, all mobile carriers must use the same metrics for measuring and disclosing throughput rates so an apples-to-apples comparison can be made. Such industry standards do not currently exist, and would need to be developed. Sprint certainly would be willing to work with an industry group to investigate the feasibility of standardization in this area.

The Commission must be cautious, however, not to create a template that would restrict new offerings or price plans. For example, in the past, proposals have been made to require car-

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47 *See Open Internet NPRM*, 24 FCC Rcd at 13110 ¶ 125.

48 *See* http://nextelonline.nextel.com/NASApp/onlinestore/en/Action/DisplayPlans?filterString=Mobile_Broadband_Cards_Filter&id12=UHP_PlansTab_Link_DataPlans.

49 *See Open Internet NPRM*, 24 FCC Rcd at 13110 ¶ 126.

riers to complete a grid that would include the number of minutes permitted under a specific price point, the cost of roaming per minute, time of day restrictions and whether minutes can be carried from one month to the next. Such a rigid view of what mobile service offerings would be has been completely turned on its head by "Simply Everything" and other flat rated plans that not only eliminate these distinctions, but added additional services and capabilities not contemplated.

B. Sprint Could Support a Rule Granting Consumers a Right to Access Content and Applications of Their Choice, Provided Appropriate Network Management and Consumer Protection Control is Retained

Sprint currently offers its customers the open access that the Commission would require under its proposed rules governing access to content and applications, as discussed above in Part II. In principle, accordingly, Sprint would not oppose an obligation to provide such access – so long as it remains clear that carriers retain the ability to manage their networks and to protect their customers.

It is essential, as the Commission proposes, that any consumer "right" to access content or applications must be subject to reasonable network management practices. This condition is critically important for mobile services because all customers in an area (served by the same cell site) share the same spectrum.[50] One or several customers in a locality must not be permitted to "hog" so much spectrum at a given point in time that other customers in the same area cannot access their desired content or applications – or even obtain service altogether (*e.g.*, make an E911 call). The Commission in its order should therefore confirm that mobile network operators can take steps to "ensure that very heavy users do not crowd out everyone else."[51]

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[50] *See, e.g., Open Internet NPRM,* 24 FCC Rcd at 13119 ¶ 159 ("[W]ireless networks are shared networks . . . with limited resources typically shared among multiple users.").

[51] *See* Chairman's Brooking Speech at 5.

The Commission also should make clear that any consumer "right" applies only to the transmission necessary to connect the customer's device to his or her desired content or applications provider. And the Commission should confirm that this consumer "right" does *not* include rights of applications providers to access other components in a mobile broadband provider's network, such as location databases, that are not needed for connectivity. If a provider of content, applications or services ("CAS provider") wishes to use the intelligence within a mobile provider's network as part of its service, it can negotiate a commercial arrangement with the mobile provider. Importantly, a mobile provider has every incentive to negotiate such arrangements with CAS providers (assuming such arrangements are permitted, *see* Part III. C. below), because they would generate revenues that would enable mobile providers to reduce prices paid by consumers – and everyone (including CAS providers) benefits when the prices for broadband Internet access services are as low as possible.[52]

The Commission also should make clear that a mobile broadband service provider can protect its customers and may, if necessary, deny access to any CAS provider when it has evidence that a particular provider is engaged in fraudulent or other commercially harmful activity. The Commission has stated that broadband providers "may address harmful traffic" and may as a result block spam or "malware or malicious traffic originating from malware."[53] Further, the

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[52] The alternative (require a mobile provider to recover all such "component" costs from all subscribers) is neither workable nor desirable. First, it is not apparent why consumers who do not use certain advanced capabilities should nonetheless be required to contribute to the costs of such capabilities. Second, different applications may impose vastly different demand on these network components (*e.g.*, thousands of location queries every hour vs. once every 15 minutes). Mobile provider charges to CAS providers for their use of its network components would send the correct economic signals to CAS providers, because it would ensure that the CAS providers making a greater use of a given network component would pay a larger share of the cost of that component and would further incent CAS providers to design their applications efficiently.

[53] *Open Internet NPRM*, 24 FCC Rcd at 13114 ¶ 138.

Commission states broadly that broadband providers "may address … traffic unwanted by users."[54]

When mobile customers encounter any type of problem, they understandably first call their service provider to fix it. But there is little a mobile provider can do if the problem is caused by a third-party CAS provider that the person has chosen to use, since the mobile provider likely has little familiarly with the service.[55] Based on its experience, Sprint is confident that many consumers will not be happy with a response that basically says, "I can't help you, you need to contact the CAS provider causing the problem."[56] Moreover, the cost of handling these calls can be substantial, increasing the cost of service for all consumers.

Nevertheless, these consumer calls may reveal evidence that a particular CAS provider is engaged in fraudulent or other commercially "unwanted" or harmful activity. Sprint does not believe the public interest would be served by enabling other Internet customers to access the same CAS provider, only to face the very same fraudulent or harmful activity already encountered by other consumers. Accordingly, mobile broadband providers need the flexibility to restrict consumer access upon evidence that a CAS provider is harming consumers – whether the harm involves spam, malware or malicious traffic originating from malware, or fraudulent and other commercially harmful practices.[57]

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[54] *Open Internet NPRM*, 24 FCC Rcd at 13114 ¶ 138.

[55] Clearly, the mobile broadband provider cannot be held responsible for these kinds of problems – and while the user may call its provider's customer care department, there is little the provider can do. Clarity in this area is necessary to avoid the inevitable claims by users that mobile providers are somehow responsible for their use of third-party applications.

[56] For this reason, the FCC should consider requiring CAS providers to include (and display prominently) contact information so consumers know how to contact a particular provider if a consumer encounters a problem with the application or service.

[57] For example, assume a user chooses to download an "app" that is badly coded and causes the user's smartphone to crash repeatedly. Or assume that unbeknownst to the user, the app steals the user's

In summary, subject to these qualifications, Sprint believes it could support adoption of a rule guaranteeing a consumer "right" to access the content, applications or service of the consumer's choice. As with each of these proposed rules, however, there are likely to be a number of other unexpected consequences that Sprint has not identified. In those circumstances, it is important that the Commission provide broadband Internet access providers with sufficient flexibility and time to react to any further rulings or clarifications on the meaning or application of this right.

C. A Strict Nondiscrimination Obligation is Unwarranted and Unworkable, But Sprint Could Support a Prohibition on "Unreasonable Discrimination"

Under proposed rule 8.14, a broadband Internet access provider would be prohibited from discriminating "against, or in favor of, any content, application, or service," subject to reasonable network management.[58] Broadband providers also would be prohibited from imposing on any CAS provider any charge for "enhanced or prioritized access."[59] The Commission, recognizing this proposed rule would be "challenging" for mobile network operators,[60] asks "to what extent" this proposal should apply to mobile broadband providers.[61]

A strict nondiscrimination rule as applied to mobile broadband Internet access providers is not workable. As demonstrated below, such a rule as applied to mobile networks is not only unnecessary, but also would affirmatively harm the public interest.

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bank account information stored on the phone. Carries should be permitted to take action on these types of "unwanted" or harmful experiences.

58 *Open Internet NPRM,* 24 FCC Rcd at 13104 ¶ 104. Proposed rule 8.14 specifically provides: "Subject to reasonable network management, a provider of broadband Internet access service must treat lawful content, applications, and services in a nondiscriminatory manner."

59 *Id.* at 13105 ¶ 106.

60 *See id.* at 13118 ¶ 157.

61 *See id.* at 13123 ¶ 171.

1. Application of a nondiscrimination rule to mobile networks is unnecessary. The Commission states it is proposing a nondiscrimination rule because broadband Internet access providers "*may* have the ability and the incentive to favor or disfavor traffic destined for its end-user customers":

> [T]he ability of network operators to discriminate in price or service quality among different types of traffic or different providers or users *may* impose significant social costs, particularly if the discrimination is motivated by anticompetitive purposes.[62]

The issue, however, is not prohibiting all discrimination. Rather, as the Commission itself has stated, the "key issue we face is distinguishing socially beneficial discrimination from socially harmful discrimination in a workable manner."[63] And as the Commission further acknowledges, socially adverse discrimination is "more likely" where "effective competition is lacking (*i.e.,* where broadband Internet access service providers have market power)":

> Broadband Internet access service providers possessing market power may have an incentive to raise prices charged to content, application, and service providers and end users.[64]

Whatever may be the situation relative to fixed wired broadband networks, mobile broadband network operators cannot successfully engage in socially harmful discrimination. This is because no wireless service provider currently possesses market power. Indeed, the Commission determined only last year that "[n]o single [wireless] competitor has a dominant

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62 *Id.* at ¶ 13104 103, 13105 ¶107 (emphasis added).

63 *Id.* at 13104 ¶ 103.

64 *Id.* at 13093 ¶ 70.

share of the market" and that the wireless marketplace "is effectively competitive."[65] Federal antitrust courts have reached the same conclusion:

> None of the defendant [wireless carriers] enjoys a market share that would, standing alone, permit an inference of market power to be drawn. * * * [T]he structure of the wireless services market reflects intense competition with no single, dominant seller.[66]

Without market power, no wireless carrier possesses the ability to harm upstream or downstream consumer markets.[67] After all, if a mobile broadband services provider raises prices or degrades the quality of the content, applications and services desired by customers, those persons will simply switch to one of its competitor's services – as evidenced by the wireless industry's annual churn rates of 18 to 36 percent.[68]

2. Application of the proposed nondiscrimination rule to mobile networks would be contrary to the public interest. Not only would application of a nondiscrimination rule to mobile networks be unnecessary, but such action would also affirmatively harm the public interest. This is because the proposed discrimination rule would prohibit all discrimination, including socially *desirable* discrimination.

Commission correctly recognizes that for their own, non-Internet (or "managed") services, broadband network operators "may require enhanced quality of service [for these services] to work well."[69] But CAS providers also may want enhanced quality of service for their services to

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65 *Thirteenth CMRS Competition Report,* 24 FCC Rcd at 6190 ¶ 1 and 6311 ¶ 277. *See also Intercarrier Compensation Remand Order/FNPRM,* 24 FCC Rcd 6475, 6637 ¶ 318 (2009)(Wireless service providers "lack market power and are considered non-dominant.").

66 *Wireless Services Antitrust Litigation,* 385 F. Supp. 2d 403, 417, 421 (S.D.N.Y. 2005).

67 Upstream markets as used in this context are in reference to upstream content, applications, and services. This is not to be confused with upstream market inputs such as backhaul/special access where vertically integrated carriers including AT&T and Verizon do posses market power.

68 *See Thirteenth CMRS Competition Report,* 24 FCC Rcd at 6270 ¶ 181.

69 *Open Internet NPRM,* 24 FCC Rcd at 13106 ¶ 108.

work well – yet, the proposed nondiscrimination rule would preclude mobile broadband network operators from meeting this need. Sprint submits this makes no sense and that an absolute ban on such cooperative arrangements would undermine, rather than promote, the public interest.

A mobile broadband network operator and CAS provider will enter into a commercial arrangement – whether for enhanced quality of service, access to network intelligence (*e.g.*, location databases) or other arrangements – only if each party benefits by the arrangement. A CAS provider would, moreover, enter into such arrangement so it can provide a superior service to consumers. By definition, these kinds of voluntary, commercial arrangements necessarily are socially beneficial and should not only be permitted, but encouraged. These types of commercial arrangements are likely to lead to the more efficient use of scarce spectrum and capacity.

3. At minimum, the Commission should prohibit only unreasonable discrimination. Although it proposes an absolute, "bright-line" prohibition on nondiscrimination (subject to reasonable network management), the Commission asks whether "an 'unjust or unreasonable discrimination' standard would be preferable to the approach we propose."[70] An unjust or unreasonable discrimination standard would be far preferable, because such a standard contains the flexibility needed to distinguish socially beneficial discrimination from socially harmful discrimination. This is confirmed by the successful use of this standard for over 75 years in connection with telecommunications services.[71]

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[70] *Open Internet NPRM,* 24 FCC Rcd at 13106 ¶ 109. Sprint does not understand the FCC's justification for its "bright-line" non-discrimination proposal, as its network has always been designed to support multiple services, including both telecommunications and information services. *See id.* ("We believe that a bright-line rule against discrimination, subject to reasonable network management and enumerated exceptions, may better fit the unique characteristics of the Internet, which differs from other communications networks in that it was not initially designed to support just one application (like telephone and cable television networks).").

[71] *See* 47 U.S.C. § 202(a).

The Commission recognizes that regardless of the discrimination standard it adopts case-by-case adjudications over what is permissible or not are "inevitable."[72] It has recognized that the Internet is both "complex" and "fast-changing,"[73] correctly noting that no one can possibly know "now everything that providers may need to do to provide a robust, safe and secure Internet access."[74] The Commission has further recognized that what may be unreasonable for a fixed wired broadband network operator may not be unreasonable for a mobile wireless network operator.[75] Similarly, what may be reasonable for an independent mobile broadband provider may be unreasonable for a provider that is vertically integrated or a broadband provider that possesses market power over both content and distribution. The beauty of the "unreasonable discrimination" standard is that the Commission can weigh a variety of factors in its determination of whether the particular practice in question is discriminatory.

These kinds of judgments can only be made based on record facts that address the particular question before the Commission. As the Chairman has observed correctly:

> I will propose that the FCC evaluate alleged violations of the non-discrimination principle as they arise, on a case-by-case basis, recognizing that the Internet is an extraordinarily complex and dynamic system. This approach . . . will allow the Commission to make reasoned, fact-based determinations based on the Internet before it – not based on the Internet of years past or guesses about how the Internet will evolve.[76]

Given these facts and given that adjudication is inevitable, Sprint submits the Commission should avoid at this time adopting any absolute prohibition banning certain conduct under all circumstances and for all time. In contrast, the "unjust and unreasonable" nondiscrimination

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72 *Open Internet NPRM* at 13106 ¶ 110.

73 *See id.* at 13112 ¶ 134.

74 *Id.* at 13114 ¶ 140.

75 *See, e.g., Open Internet NPRM*, 24 FCC Rcd at 13104 ¶ 108, 13113 ¶ 137.

76 Chairman's Brooking Speech at 5.

standard – coupled with case-by-case adjudication – contains the flexibility needed to distinguish socially desirable discrimination from socially harmful discrimination.

D. The Proposed Obligation to Permit "Any Lawful Device" to Attach to the Network Would Be Problematic for Current Wireless Networks, But May Be Appropriate in the Future

The NPRM proposes an "any lawful device" rule whereby a provider of broadband Internet access service could "not prevent any of its users from connecting to and using on its network the user's choice of lawful devices that do not harm the network."[77] However, recognizing this rule proposal would be "challenging" for mobile network operators, the Commission specifically seeks comment on "how, in what time frames or phases and to what extent the 'any device' rule should apply to mobile wireless broadband Internet access."[78]

Sprint demonstrates below that the "any device" proposal as applied to current mobile networks is not necessary to further the Commission's goals of promoting wireless device innovation and investment as these goals are being met without regulation. Moreover, the wireless device market is evolving already towards a more "open" approach. However, the immediate adoption of an "any device" rule, would pose formidable challenges for mature wireless networks (threatening spectrum efficiency) and back-office systems. Not only would such a rule prove difficult for wireless network operators, but it also would have considerable impacts on the customer experience.

Sprint could support, however, an industry effort that would examine further steps industry can take so consumers could use any device on nascent mobile IP networks (*e.g.*, 4G networks currently under construction). Because device/network interoperability will work only if

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77 Proposed rule 8.9.

78 *Open Internet NPRM*, 24 FCC Rcd at 13118 ¶ 157, 13122 ¶ 166.

all affected parties – network operators, device manufacturers and systems developers – have input in to the process, it is essential this process be industry-driven and provided ample time to transition to such an open device model.

1. The Purpose of an "Any Device" Rule for Mobile Networks at This Time Is Not Apparent. The Commission proposes an "any device" rule principally to "encourage investment and innovation in the device market."[79] But whatever may be the situation relative to the fixed wired market, there already is unprecedented investment and innovation in the wireless device market. Indeed, it is difficult to identify any other industry in the world that has seen more innovation of late than the wireless device market.

The Commission recognizes correctly that mobile broadband network operators have already "unleash[ed] tremendous innovation and investment," that the mobile market is "highly dynamic" and experiencing "rapid growth," and that as a result, "many new and innovative applications also have been developed."[80] Chairman Genachowski similarly has observed that mobile providers have made available to consumers devices that are "remarkable," "extraordinary and innovative,"[81] with new devices being introduced "at a dizzying pace":[82]

> And in the fast-growing apps economy, we see early glimpses of what the future can bring. From 0 to 100,000 apps in just over a year.[83]
>
> * * *
>
> That's because all of you [in the wireless industry] are changing the world. You've turned clunky one-trick handsets into sleek and powerful mini-PCs.[84]

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79 *See id.* at 13101 ¶ 93.

80 *Id.* at 13118-22 ¶¶ 155-56, 159, 162.

81 Chairman's Separate Statement, *Fostering Wireless Innovation and Investment*, 24 FCC Rcd 11322, 11347 (2009).

82 Chairman's Brookings Speech at 6.

83 Chairman's Innovation Economy Conference Speech at 8.

Given this investment and rapid innovation, it is difficult to understand how an "any device" rule is needed to "encourage investment and innovation in the [wireless] device market."[85]

The Commission has further stated that an "any device" rule would permit "customers to change Internet access service providers more easily."[86] But current churn levels in the wireless industry (18% to 36% annually) confirm that the absence of an "any device" rule has not stood as an obstacle to consumers switching service providers.[87]

Application of an "any device" rule is especially unnecessary because, as the Chairman has observed, there already exists in the mobile ecosystem "a trend towards openness."[88] As the Commission correctly notes in the NPRM, all of the major wireless network operators, including Sprint and Clearwire, have "each developed programs to allow for third-party devices and/or applications on their networks,"[89] and that mobile providers have made "significant progress toward the open platform model":

> [I]ndividual wireless providers have taken additional steps to open their networks, leading to jockeying among wireless services providers to demonstrate they offer consumers the most choices with regard to handsets and applications.[90]

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84 Chairman's CTIA Speech at 1.

85 *Open Internet NPRM*, 24 FCC Rcd at 13101 ¶ 93.

86 *Open Internet NPRM*, 24 FCC Rcd at t 13101 ¶ 93.

87 *Thirteenth CMRS Competition Report*, 24 FCC Rcd at 6271 ¶ 181. Moreover, an "any device" rule would have little effect in the marketplace as a practical matter because most consumers get a new phone every year or two. This is because the overwhelming majority of consumers elect to use a plan with a subsidized device and a one- or two-year service contract. At the end of the plan's term, the vast majority of these customers elect to get a new device – whether they remain with their current provider or switch to another provider. And as discussed below, a consumer switching carriers has a strong incentive to choose one of the numerous devices offered by the new provider because of the customer care that accompanies such devices.

88 Chairman's Brooking Speech at 6.

89 *Open Internet NPRM*, 24 FCC Rcd at 13120-21 ¶ 162 and n.283.

90 *Thirteenth CMRS Competition Report*, 24 FCC Rcd at 9266 ¶ 167.

And, in recent weeks Google announced its Nexus One device that it began selling directly to consumers as an "unlocked" device on GSM networks.[91] Given the existing intense competition to offer consumers better and more robust devices, Sprint submits that now is not the time to impose new rules that even the Commission acknowledges would be "challenging" to the wireless industry.

2. Adoption at This Time of an "Any Device" Would Pose New Issues for Consumers and Formidable Challenges to Wireless Network Operators. Since the inception of the mobile wireless industry 25 years ago, each licensee has maintained control over the types of devices that are used on its radio network. This control has been exercised *via* the device certification process that each licensee has developed to meet its particular needs. The proposed "any device" rule would dramatically change this situation by requiring licensees to accept any device on their network, including devices they have not certified.

This rule proposal, as discussed below, would have significant impacts on consumers choosing to use a non-certified device. The proposal also would pose formidable challenges to wireless network operators to continue to protect their network against fraud and other harms and to ensure the quality of service that consumers demand.

(a) *An "any device" rule would dramatically change the customer-service provider relationship and, depending on consumer expectations, could result in unhappy consumers.* At any one time, Sprint sells over 40 different devices to the public (phones, smartphones, broadband cards), and its competitors offer a similar number of devices. Before it sells any new device to consumers, Sprint (i) certifies the device, by thoroughly testing it to ensure it meets the design

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91 *See* Google Press Release, *Google Offers New Model for Consumer to Buy a Mobile Phone,* (Jan. 5, 2010) *available at,* http://www.google.com/intl/en/press/pressrel/20100105_phone.html

specifications Sprint developed for the device and works smoothly with all of Sprint's services and capabilities; (ii) updates its systems to include pertinent information about the device; and (iii) trains its customer care employees about the device. When a customer contacts Sprint with questions (*e.g.*, how do I do this or program that?) or with a problem (*e.g.*, a certain service does not work), Sprint employees are prepared to respond to the inquiry and satisfy the customer. In other words, in today's environment, a mobile service provider assumes responsibility for all aspects of the customer's experience – whether blocked/dropped calls or data sessions, the ability to connect to data applications, data transmission rates, data session reliability, *etc.* – and customers today have become accustomed to holding their service providers accountable for all aspects of their service.

This business model would no longer be feasible if network users were able to use non-certified devices (per an "any device" rule). Like customers purchasing a Sprint certified device, a person using a non-certified device will contact Sprint customer care with questions or a problem. But unlike customers purchasing a Sprint device, this person likely will not be satisfied with Sprint's response.[92]

There are hundreds of non-Sprint certified devices available to the public that could work on Sprint's network.[93] It is not reasonable to believe that Sprint's customer care employees will be familiar with all or even many of these non-certified devices. The most likely result is that

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92 According to press reports, these types of concerns have been raised by consumers with respect to the newly launched Google Nexus One device that is sold directly to consumers via an on-line store for use on the T-Mobile network. These reports suggest customers are struggling to understand which company to turn to for questions concerning the device and are often and naturally turning to the carrier to resolve their issues when they are unable to reach the vendor. *See*, http://www.networkworld.com/news/2010/011210-google-t-mobile-respond-to-nexus.html.

93 Whether they are optimized to work on Sprint's network is another matter, as discussed below.

Sprint care employees will be unable to answer the question posed or fix the problem identified because of their unfamiliarity with the device.[94]

Based on its experience, Sprint questions whether consumers will be satisfied with this result and believes many consumers will have difficulty understanding why Sprint would allow them to use a device that Sprint does not support. Thus, if the Commission is inclined to adopt an "any device" rule for the mobile industry, at minimum it should first examine carefully the impact of such a rule on consumers and their expectations.

Not surprisingly, perhaps, given the intense competition in the mobile space, the long-standing consumer-service provider relationship is about to be tested. Specifically, Google announced earlier this month that it would begin selling a new device (Nexus One) directly to consumers, and at least one service provider has already indicated it will accept consumers' use of this non-certified device. But this acceptance understandably is subject to a major condition – namely, "We can't, of course, guarantee how the device will perform since it hasn't been certified for use on the AT&T network."[95]

There are two ways the Commission can address the consumer issues with an "any device" rule: it can (1) make a judgment based on its best estimate of consumers' desires; or (2) let consumers decide for themselves based on the experiments that are taking place. Given the

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[94] The challenge facing persons who would choose to use non-certified devices is not limited to dealings with customer care. For example, Sprint uses over-the-air technology to update its customers' devices, a technique that requires virtually no customer involvement. However, a non-certified device may not be designed to use the particular over-the-air technology that Sprint employs. A customer owning such a device may not be happy when told he must visit a Sprint store so the update can be done manually (assuming this is even possible).

[95] Unstrung News Analysis, *AT&T Wants Nexus One Users' Cash* (Jan. 7, 2010)(quoting an email from an unidentified AT&T spokesperson), *available at* http://www.unstrung.com/document.asp?doc_id=186464&. According to this article, while the Nexus One will work on AT&T's 2.5 (EDGE) network, it was not designed to work on AT&T's 3G (HSPA) network.

enormous success of the Commission's past reliance on market forces, Sprint submits that the second alternative is preferable to the first one.

(b) *Adoption at this time of an "any device" rule would pose formidable challenges to wireless network operators, which must be addressed before any rule could be implemented.* Mobile service providers use their certification/testing process not only to ensure customers receive a quality experience, but also to ensure that their network remains secure and is protected from fraud, cloned devices, harmful use, and non-compliance with the terms of service. If consumers are now given the right to use devices that a particular licensee has not certified for its network, licensees must first develop and implement alternative processes to ensure network security and to protect against fraud and other harms.

But the matter is far more complex, because licensees must also develop and implement ways to handle non-certified devices that cause harm to the network and to other customers. For example, one new device sometimes gets stuck in an "infinite loop" condition, when it begins to generate thousands of network data session requests in an hour. This condition by a single device can substantially limit the availability and quality of services to other customers served by the same cell site. Currently, patches for such software problems can be loaded onto devices over the air. It is unclear, however, whether this would continue to be viable in an "any device" environment. At a minimum, these technical issues need to be addressed.

3. Sprint Would Support an Industry-Led Effort to Examine an "Any Device" Environment with the New All-IP (or 4G) Mobile Networks Now Being Constructed. An "any device" rule would have enormous ramifications for the wireless industry, as virtually every existing system and business practice would need to be modified. Nevertheless, since the industry is

moving towards an open device environment, Sprint would support an industry effort to examine further steps the industry can take so consumers could use one device on any mobile IP network.

It is essential this process be industry led, as the issues are so numerous and complex. Moreover, device/network interoperability will work only if all affected parties – network operators, device manufacturers and systems developers – have input into the process.[96] Among the many issues that would need to be discussed is the development of a universal standard that enables and ensures device/network interoperability. In addition, industry would need ample time to develop an industry-sanctioned certification process. Given the complexity of this subject, Sprint believes the focus of this effort should be on the new mobile IP networks and not include existing 2G/3G networks, which use differing standards.[97]

4. In Response to the FCC's Question, Each Licensee Must Be Permitted to Define Harm to Own Its Network. The Commission asks if it adopts an "any device" rule for mobile broadband networks, "Who should ensure that devices are non-harmful: the providers themselves, third-party organizations, industry associations/laboratories, or the Commission?"[98] At least with respect to current technology and networks, Sprint suggests that licensees should retain the flexibility to define harm to their own network. Licensees have the incentive to maintain and improve upon the efficiency of their use of scarce spectrum. While wider industry standards might be developed to address these issues in the future, current systems require careful supervision of spectral efficiency.

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96 Because the industry standards process is open, the FCC, consumer advocates and other interested parties would be welcome to attend these meetings as well.

97 Unlike GSM which has global standards in place for provisioning and validation, CDMA does not have this standardized framework in place making it much more difficult to accept "unlocked" or non-certified devices on CDMA networks.

98 *Open Internet NPRM*, 24 FCC Rcd at 13122 ¶ 166.

Congress has specified that the public interest is served when the nation's finite spectrum is used in an "efficient and intensive" manner.[99] Sprint, having paid the federal government billions of dollars for its spectrum, has every incentive to use this spectrum as efficiently as possible – so as to get "the most bang for the buck" from its investment. In this case, public and private interests are fully coextensive.

Spectral efficiency can only be achieved if a licensee can control the types of devices that are used on its network. This is because wireless devices (and in particular, a device's communications and radio functions) are an integral part of a wireless network. The constant communications between a device and the serving cell site are complex, as the NPRM recognizes at a high level.[100]

Licensees use a variety of technologies and techniques – including power control, vocoders and over-the-air provisioning – to achieve the desired spectral efficiency for their networks.[101] For present purposes, it is important for the Commission to understand two points.

(i) First, each carrier develops its own specifications for phones and other wireless devices (type, design and functionality) in order to maximize the performance of its network, based on its unique requirements. For example, while Sprint and Verizon Wireless are both CDMA carriers, the two carriers have made different choices with

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99 *See* 47 U.S.C. § 309(j)(3)(D).

100 *See Open Internet NPRM*, 24 FCC Rcd 13119 at ¶ 159 ("In order to facilitate connection and quality of communications over these radio links, wireless networks employ technical controls over factors such as the frequency, time, and power of the phones' signals. The customer device communicates with the network using a specified technical interface. . . . Wireless networks must deal with particularly dynamic changes in the communications path due to radio interference and propagation effects such as signal loss with increasing distance of the wireless phone from the base stations, fading, multipath, and shadowing.").

101 Sprint has described previously these technologies and techniques in considerable detail, and it will not repeat that discussion here. *See* Sprint Skype Comments, RM-11361, at 7-16 (April 30, 2007).

respect to vocoders, over-the-air software controls and the like. Because of these differences, a phone that is optimized to work on one CDMA network may not be optimized to work on the other CDMA network.

(ii) Second, each carrier over time continues to take advantage of new technologies so as to make further improvements to the spectral efficiency of its network. Sometimes these improvements can be implemented through software updates to an existing device *via* the over-the-air provisioning process. Other times, the carrier begins selling only those devices that incorporate the more demanding or sophisticated requirements. Again, each network operator determines, based on its unique situation, whether to make any upgrades, which upgrades to make, when and where.

If Sprint understands the "any device" rule proposal correctly, it may lose the ability to ensure that only devices optimized for its particular network would be used. Put another way, Sprint may lose the ability to control the efficiency of its spectrum.

So why is spectral efficiency so important (aside from the explicit Congressional directive)? There are many reasons. Power control levels and vocoder types often determine the total number of customers that can be served from a given cell site or the amount of data capacity that is available to customers. To accommodate increased demand, a carrier may be able to avoid the cost of installing a new cell site by using lower power levels and more sophisticated vocoders. This results in savings in capital investment and operational costs which, in turn, help keep the cost of wireless service affordable. Furthermore, a network operator's control of these technical parameters helps ensure that customers receive the quality of service they demand.

It is critically important for the Commission also to understand that device manufacturers and consumers do not share the same incentive to maximize the spectral efficiency of a service

provider's network. Indeed, the incentives can be perverse. Specifically, if a wireless network operator is precluded from establishing device specifications for its network, manufacturers might install older (and cheaper) chipsets so they could sell their devices either at a lower price or at a higher margin (and customers would have no means of knowing their device does not include state-of-the-art technology).

Manufacturers may even have an incentive to produce phones that provide better performance to consumers who buy their equipment (through increased power levels). But since the power levels at a given cell site are fixed, customers using such higher power handsets would degrade the performance of the network for other customers (because the extra power needlessly used by the one customer is then not available to other customers served by the same cell site). And worse, if enough of these non-conforming devices are operational, the service provider may be required – needlessly – to build additional cell sites, at a substantial cost.

All wireless carriers have over the past decade achieved dramatic improvements in the spectral efficiency of their networks. Part of this improvement is due to the deployment of more robust air interfaces (2G vs. 3G vs. 4G). Part of this improvement is due to advances in power control and vocoders. But it bears emphasis that none of these improvements in spectral efficiency would have been realized if network operators were unable to control the devices used on their network.

Notably, only two years ago the Commission specifically rejected applying an "any device" rule to mobile services providers:

> We also recognize that wireless providers have legitimate technical reasons to restrict particular non-carrier devices and applications on their networks, specifically to ensure the safety and integrity of their networks. In particular, we believe that it is reasonable for wireless service providers to maintain network control features that permit dynamic management of network operations, including the man-

agement of devices operating on the network, and to restrict use of the network to devices compatible with these network control features.[102]

Sprint submits that given the importance of spectral efficiency to this nation's economy, the public interest would not be served by the adoption of new rules that would inhibit the ability of licensees to maintain and improve upon the efficiency in which they can use spectrum assigned to them. This means that each licensee must be able to decide for itself what constitutes harm to its network. This function cannot be delegated to other parties who may not have the same incentives to promote spectral efficiency.

V. SPRINT AGREES THAT ANY NEW RULES MUST EXCLUDE MANAGED SERVICES

Mobile broadband network operators, in addition to providing Internet access services, also use their networks to provide other services that do not access the Internet – which the Commission labels, "managed services." Examples of these non-Internet access, or "managed," services include voice services, text messaging, and services provided to enterprise customers. This list undoubtedly will grow as 4G networks are more widely deployed (as managed services might be provided in such areas as telemedicine, smart grid and eLearning).[103]

Sprint agrees with the Commission's tentative conclusion that whatever rules it may adopt for Internet access should not apply to non-Internet access, or "managed," services.[104] The Commission correctly recognizes that managed services are "distinct" from Internet access ser-

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102 *Second 700 MHz Order*, 22 FCC Rcd 15289, 15371 ¶ 223 (2007).

103 *See Open Internet NPRM*, 24 FCC Rcd at 13117 ¶ 150.

104 *See id.* at 13105-06 ¶¶ 108-09.

vices.[105] Indeed, it is not apparent how the proposed "open Internet" rules would even apply to managed services. For example, would the proposed non-discrimination rule require mobile providers to send to an enterprise customer's employees content, applications or services that the business customer does not want its employees to access?

The Commission has stated it commenced this rulemaking in part to provide regulatory certainty to industry.[106] Regulatory certainty is critically important to network operators so they can engage in meaningful business planning and obtain the vast capital they need for investment and operations. Yet, the NPRM oddly creates, rather than removes, regulatory uncertainty with regard to managed services, when it states that new Internet access rules would not "necessarily or automatically" apply to managed services.[107] To provide the regulatory certainty industry requires, the Commission in its order should declare unequivocally that none of any Internet access rules adopted will be applied to any managed services.

The Commission states it is "sensitive to any risk that the growth of managed or specialized services might supplant or otherwise negatively affect the open Internet."[108] The risk of this occurring is small – and the risk of this occurring on mobile broadband networks will almost entirely depend on the actions the Commission takes (or does not take).

Building a nationwide 4G network is enormously expensive, as billions are spent in acquiring spectrum and billions more are needed to build the network. Given these facts, mobile

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105 *See id.* at 13067 ¶ 11. In response to the FCC's question (*see id.* at 13117 ¶ 152), Sprint does not believe it is necessary or appropriate for the FCC to classify now managed services for regulatory purposes. Such determinations are best made on a case-by-case basis.

106 *See, e.g., Open Internet NPRM,* 24 FCC Rcd at 13105-06 ¶ 108 ("Greater predictability in this area will enable broadband providers to better plan for the future.").

107 *See id.* at ¶ 108. *See also id.* (New Internet access rules would "not apply in part or full" to managed services.").

108 *Id.* at ¶ 149.

broadband network operators have powerful incentives to provide as many services as possible over the new networks, so they can generate the revenues needed to pay debt or to expand the network (whether to new areas or to accommodate additional demand within the current foot-print).

Where an issue may arise is if demand for mobile broadband services exceeds available capacity (*e.g.*, FCC does not timely allocate additional spectrum for 4G services). In this situation, mobile broadband network owners understandably would be incented to focus on those services that generate the highest profits – so as to improve their ability to pay debt or make additional investment for network expansion. To the extent the Commission adopts rules limiting the flexibility of mobile network operators to recover costs from all users of their broadband networks (*e.g.*, rules prohibiting charges to CAS providers under any circumstance), there might be a risk that less than optimum capacity is available for Internet access services.

Thus, if the Commission wants to eliminate the risk that managed services may use a disproportionate share of a mobile broadband network's available capacity, it should (1) allocate additional broadband spectrum as soon as practical and (2) decline to adopt rules that would restrict the ability of network owners from recovering network costs from all users of the network.

VI. CONCLUSION

The American wireless industry is one of this nation's gems. There are, as the Chairman has stated, "huge opportunities – and real risks – around mobile broadband":

> Much of what we see suggests the mobile broadband can be the preeminent platform for innovation in the next decade. To be the global leader in innovation 10 years from now, we need to lead the world in wireless broadband.[109]

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[109] Chairman's Innovation Economy Conference Speech at 7.

And while Sprint maintains the Commission's long-standing and highly successful "hands-off" policy is the best approach to achieving ubiquitous and rapid deployment of next generation mobile broadband that meets the evolving needs of consumers, Sprint also has embraced openness as a carrier and supports the Commission's goal of a free and open Internet. Sprint, therefore, implores the Commission to wade cautiously into these regulatory waters so as not to impede or distort the burgeoning mobile wireless broadband market.

Respectfully submitted,

SPRINT NEXTEL CORPORATION

/s/ Vonya B. McCann
Vonya B. McCann
Senior Vice President, Government Affairs
Sprint Nextel Corporation
900 Seventh Street N.W., Suite 700
Washington, D.C. 20001
202-585-1902

Charles W. McKee
Vice President, Government Affairs
Federal and State Regulatory
Sprint Nextel Corporation
900 Seventh Street N.W., Suite 700
Washington, D.C. 20001
703-433-3786

Scott R. Freiermuth
Counsel, Government Affairs
Federal Regulatory
Sprint Nextel Corporation
6450 Sprint Parkway
Overland Park, KS 66251
913-315-8521

January 14, 2010